

AMENDMENTS TO THE CLAIMS

- Please amend claims 23 and 24 as follows:

~~23. (AMENDED) The microthermionic converter of claim 22 A self-powered microthermionic converter comprising:~~

an emitter electrode;

a collector electrode separated from said emitter electrode by a micron-scale interelectrode gap;

a self-powered thermal power source in thermal contact with said emitter electrode;

means for removing electrons emitted by the emitter electrode;

means for returning the emitted electrons to the collector electrode; and

additionally comprising a thermal heat barrier;

wherein the thermal heat barrier comprises a micro heat barrier comprising a plurality of microspikes and at least one highly IR reflective surface.

~~24. (AMENDED) The microthermionic converter of claim 22 A self-powered microthermionic converter comprising:~~

an emitter electrode;

a collector electrode separated from said emitter electrode by a micron-scale interelectrode gap;

a self-powered thermal power source in thermal contact with said emitter electrode;

means for removing electrons emitted by the emitter electrode;

means for returning the emitted electrons to the collector electrode; and

additionally comprising an electrically insulating material disposed between non-interacting portions of said emitter electrode and collector electrode.

Application No. 10/028,144

- Please add new independent claim 56:

56. (NEW) A self-powered microthermionic converter comprising:
an emitter electrode;
a collector electrode separated from said emitter electrode by a micron-scale
interelectrode gap;
a self-powered thermal power source in thermal contact with said emitter electrode;
means for removing electrons emitted by the emitter electrode;
means for returning the emitted electrons to the collector electrode; and
a thermal heat barrier;
wherein said interelectrode gap is greater than or equal to about 1 micron and is less than
or equal to about 3 microns;
wherein a length of said emitter electrode is greater than or equal to about 50 microns
and is less than or equal to about 100 microns; and
wherein said interelectrode gap comprises a vacuum.